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Food Security and Resource Management in Amazonian Small Towns

An Analysis of Factors Leading to Resilience of Indigenous Food System

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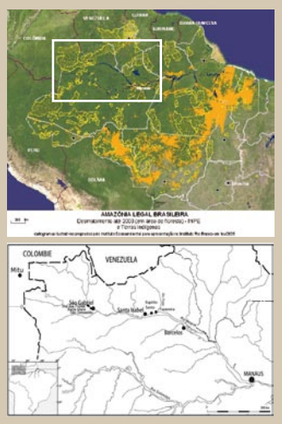
Programs PACTA and Agrobiodiversidade*

Regional Context

- Two small towns in Brazilian Northwest Amazon, the Rio Negro basin (black water ecosystem)
- Food system based on spatial complexity, biodiversity, large exchange networks, and diversity of food preparations.



Objective

- Analyse the relationship between resource management systems and food security in order to define determinants of indigenous food system resilience regarding global environmental change.

Method

- Ethnographic and agro-economic interviews (n=75) in two towns over 7000-13000 inhabitants (São Gabriel da Cachoeira and Santa Isabel do Rio Negro).
- Participatory mapping with GIS and remote sensing.

Global-to-local factors influencing food security

Global factors

- **Climate variability & extreme events**
- **Forest cover degradation**

Regional factors

- Uncertainty and risk of swidden agriculture and fish resource availability
- Uncertainty and risk of food transportation and supplies
- Urbanisation

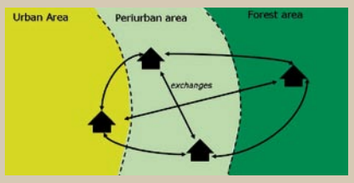
Local factors

- Changes in use rights over resources
- Pluriactivity and multilocality
- New fishing and agricultural techniques

- **Local food security depending on technical and territorial innovations developed by indigenous families**

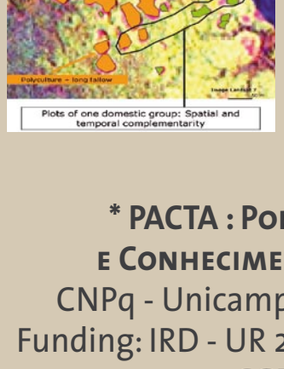
Multi-site production units and pluriactivity: innovations for food system resilience

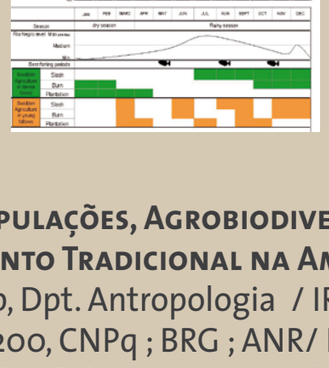
- Circular mobility across urban and forest areas permitted by diversity of land use rights exchange



Traditional multiple use resource management

- Constraints: periods without rain (before burning), seasonal availability of fish, man/women labour force
- Food Production sites of one domestic group: Spatial and temporal complementarity
- Exchange between families
- Coping with climate variability for guarantying soil fertility, biodiversity conservation and food security





Conclusion

Technical, social and territorial innovations for maintaining food diversity.

Limited to indigenous families who benefit from non-agricultural incomes and land tenure security in the periurban area.

Priorities to enhance food system resilience:

- **Supporting local/regional food chains based on quality and diversity**
- **River transportation for better accessibility to diversified natural resources**
- **Periurban agroforestry systems for sustainable poultry and fish breeding.**

Food system vulnerability for recently urbanized indigenous population

- Constraints: access to land and resources, transport, employment, education, social capital.
- High dependence on cheap agro-industrial food.

* PACTA : Populações, Agrobiodiversidade e Conhecimento Tradicional na Amazônia.
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